

1. A lamellar die apparatus for extruding a heated liquid into filaments, comprising:

a plurality of plates each having opposite side faces, at least two of said side faces confronting each other and having a liquid passage

5 positioned therebetween for transferring the heated liquid, and at least two of said side faces confronting each other and having a heating element passage therebetween,

a heating element positioned within said heating element passage for heating the liquid in said liquid passage, and

10 an extrusion die coupled with said plurality of plates and communicating with said liquid passage for discharging the heated liquid as multiple filaments.

2. The apparatus of claim 1, wherein said liquid passage is formed by respective first and second recesses on different ones of said plates which abut one another, and said heating element passage is formed by respective

5 third and fourth recesses on different ones of said plates which abut one another.

3. The apparatus of claim 1, further comprising a plurality of heating element passages positioned between two of said plates and a plurality of heating elements respectively contained in said plurality of heating element passages.

4. The apparatus of claim 1, wherein said liquid passage includes an inlet portion and an outlet portion, said outlet portion being wider than said inlet portion.

5. The apparatus of claim 4, wherein said outlet portion of said liquid passage forms an elongate liquid outlet slot.

6. The apparatus of claim 5, wherein said extrusion die includes an elongate liquid inlet slot aligned in communication with said elongate liquid outlet slot.

7. A lamellar die apparatus for extruding at least two heated liquids into multi-component filaments, comprising:

a plurality of plates each having opposite side faces, at least two of said side faces confronting each other and having a first liquid passage

5 positioned therebetween for transferring a first heated liquid, at least two of said side faces confronting each other and having a second liquid passage positioned therebetween for transferring a second heated liquid, and at least two of said side faces confronting each other and having a first heating element passage therebetween,

10 a heating element positioned within said first heating element

passage for heating at least two of said plates, and

an extrusion die coupled with said plurality of plates and communicating with said first and second liquid passages for discharging the first and second heated liquids as the multi-component filaments.

8. The apparatus of claim 7, wherein said first liquid passage is formed

by respective first and second recesses on different ones of said plates

which abut one another, said second liquid passage is formed by respective

5 third and fourth recesses on different ones of said plates which abut one another, and said first heating element passage is formed by respective fifth and sixth recesses on different ones of said plates which abut one another.

9. The apparatus of claim 7, further comprising a plurality of heating element passages positioned between two of said plates and a plurality of heating elements respectively contained in said plurality of heating element passages.

10. The apparatus of claim 7, further comprising a second heating element passage located on an opposite side of said first and second liquid passages from said first heating element passage.

11. The apparatus of claim 7, wherein said first and second liquid passages each include an inlet portion and an outlet portion, said outlet portion being wider than said inlet portion.

12. The apparatus of claim 11, wherein said outlet portions of said first and second liquid passages form respective elongate first and second liquid outlet slots.

13. The apparatus of claim 12, wherein said extrusion die includes first and second elongate liquid inlet slots respectively aligned in communication with said first and second elongate liquid outlet slots.

14. A method of extruding filaments of first liquid, comprising:  
introducing the first liquid between a pair of plates in a  
manifold assembly;  
heating the first liquid in the manifold assembly with a heater  
5 positioned between a pair of plates of the manifold assembly;  
directing the first liquid from the manifold assembly into an  
extrusion die;  
discharging the first liquid from the extrusion die as a plurality  
of filaments; and  
10 collecting the filaments to form a web.

15. The method of claim 14, further comprising:  
introducing a second liquid between a pair of plates in the  
manifold assembly;  
directing the second liquid from the manifold assembly into the  
5 extrusion die;  
combining the first and second liquids;  
discharging the first and second liquids from the extrusion die  
as a plurality of multi-component filaments;  
collecting the multi-component filaments to form a web.

16. The method of claim 15, further comprising:

introducing quench air between a pair of plates in the manifold assembly;

directing the quench air from the manifold assembly into the

5 extrusion die;

discharging the quench air from the extrusion die to quench

the filaments.

17. The method of claim 14, further comprising:

introducing quench air between a pair of plates in the manifold assembly;

directing the quench air from the manifold assembly into the

5 extrusion die;

discharging the quench air from the extrusion die to quench

the filaments.